

REMARKS

The Application has been reviewed in light of the Office Action mailed December 28, 2005. Claims 1, 9-10, 13-14, 17-18, and 28 have been amended. Claims 31-33 have been added. Thus, claims 1-33 are pending. Reconsideration and withdrawal of all outstanding rejections is respectfully requested in light of the foregoing amendments and the following remarks.

As an initial matter, Applicants note that the Attorney Docket No. on the Office Action mailed December 28th is still incorrect. As stated in our Request for Reconsideration filed October 12, 2004, the correct Attorney Docket No. for this Application is M4065.0788. Correction of the PTO records is requested.

Claim 17 stands objected to under 37 CFR 1.75 for having insufficient antecedent basis for the claim phrase “said pair of p+ type guard rings.” The dependency of this claim has been changed and this claim phrase now has sufficient antecedent bases. Withdrawal of the objection is requested.

Claims 1-3, 6, 10, 14, 15 and 22 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 5,869,857 to Chen (“Chen”). The rejection is traversed and reconsideration requested.

Independent claims 1, 10, and 14 relate respectively to a pixel sensor, an image sensing device, and a CMOS image sensor system. Each of these claims has been amended to recite, *inter alia*, “a first reset circuit configured to provide a reset signal at said gate of said source follower transistor, where said first reset circuit includes at least one p-type transistor having a gate for receiving a first and a second control signal thereat to control a reset operation” of said photosensitive element.

Chen relates to a CMOS photodetector with wide dynamic range. Chen does not, however, teach or suggest the claimed “reset circuit [that] includes at least one p-type transistor having a gate for receiving a first and a second control signal thereat to

control a reset operation of said photosensitive element.” Chen shows one reset transistor M3 that receives one reset control signal S3 (FIG. 2). None of the other references, whether considered alone or in combination, cure the deficiency of Chen discussed herein. For example, Merrill ‘947 shows two reset circuits, and shows two reset signals Reset1 and Reset2. Merrill does not, however, teach or suggest a reset gate that receives “a first and a second control signal thereat to control a reset operation of said photosensitive element.” The first control signal of Merrill ‘947, Reset1, puts a reset level on a column line, it does not control a transistor gate N1 to “control a reset operation of said photosensitive element” as in the claimed invention. (See col. 6, line 21- col. 6, line 55).

For at least these reasons, claims 1, 10, and 14 should be allowable. Claims 2-3, 6, 15 and 22 depend from claims 1, 10, and 14 and contain all of the limitations recited by the independent claims. Withdrawal of the rejection of claims 1-3, 6, 10, 14, 15 and 22 is requested.

Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen in view of U.S. Patent No. 6,252,218 to Chou (“Chou”). The rejection is traversed and reconsideration requested.

Claim 4 depends from claim 1 and contains all of the limitations recited therein. For whatever Chou teaches regarding formation of a photodiode in a square or circular design, Chou does not cure the deficiencies of Chen as discussed above. For at least these reasons, withdrawal of the rejection of claim 4 is respectfully requested.

Claims 7, 11, 16, 21, and 27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen in view of U.S. Patent No. 5,757,008 to Akagawa (“Akagawa”). The rejection is traversed and reconsideration requested.

Claims 7, 11, 16, 21, and 27 each depend from one of independent claims 1, 10, and 14 and contain all of the limitations recited therein. Even assuming, *arguendo*, that there were some objective motivation to combine the teachings of Chen with the

teachings of Akagawa, the combination of Chen and Akagawa still does not render obvious the claimed invention recited by these claims. Akagawa does not cure the deficiencies of Chen discussed above. Withdrawal of the rejection of claims 7, 11, 16, 21, and 27 is respectfully requested.

Claim 8 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen in view of U.S. Patent No. 6,369,853 to Merrill (“Merrill ‘853”). The rejection is traversed and reconsideration requested.

Claim 8 depends from claim 1 and contains all of the limitations recited therein. For whatever Merrill ‘853 teaches regarding connection of an n-well to a supply voltage, Merrill ‘853 does not cure the deficiencies of Chen as discussed above. For at least these reasons, withdrawal of the rejection of claim 8 is respectfully requested.

Claims 9, 13, and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen in view of U.S. Patent No. 5,917,547 to Merrill (“Merrill ‘547”). The rejection is traversed and reconsideration requested.

Claims 9, 13, and 18 depend from claims 1, 10, and 14 respectively and contain all of the limitations recited therein. For all the reasons given above, Merrill ‘547 does not cure the deficiencies of Chen as discussed above. For at least these reasons, withdrawal of the rejection of claims 9, 13, and 18 is respectfully requested.

Claims 12 and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen in view of Akagawa and further in view of Merrill ‘853. The rejection is traversed and reconsideration requested.

Claims 12 and 17 depend from claims 1 and 14 respectively, and contain all of the limitations recited therein. For whatever Merrill ‘853 teaches regarding an n-well adapted for connection to a supply voltage, Merrill ‘853 does not cure the deficiencies

of Chen as discussed above. For at least these reasons, withdrawal of the rejection of claims 12 and 17 is respectfully requested.

Claims 19, 20, 23, 24, 25, 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen. The rejection is traversed and reconsideration requested.

Claims 19, 20, and 23-26 depend from claims 1, 10, and 14 and contain all of the limitations recited therein. For at least the reasons given above with respect to claims 1, 10, and 14, claims 19, 20, and 23-26 should be allowable. Withdrawal of the rejection of these claims is respectfully requested.

Claims 28 and 30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen in view of Merrill '547 and further in view of Akagawa. The rejection is traversed and reconsideration requested.

Independent claim 28 relates to an array of pixel sensors. It recites "a second reset circuit coupled to an input of said first reset circuit and for generating a second reset control signal for operating said first reset circuit to allow a pixel-by-pixel reset." For at least the reasons given above for the allowability of claim 1, claim 28 is also allowable. Claim 30 depends from claim 28 and should also be allowable. Withdrawal of the rejection of claims 28 and 30 is requested.

Claim 29 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen in view of Merrill '547 and further in view of Akagawa and Merrill '853. The rejection is traversed and reconsideration requested.

Claim 29 depends from claim 28 and contains all of the claim limitations recited therein. For at least the reasons given above for the allowability of claim 28, claim 29 is also allowable. Withdrawal of the rejection of claim 29 is requested.

Similarly, new independent claim 31 recites “a first reset transistor having a first reset gate configured to receive a first reset control signal for performing a reset operation for said photosensitive element, said first reset control signal being commonly applied to a row of pixels; and a second reset transistor having a second reset gate configured to receive a second reset control signal for performing a reset operation for the photosensitive element as an individual pixel reset.” For all of the reasons given above regarding independent claims 1, 10, 14, and 28, new claims 31-33 are also allowable.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Dated:

Respectfully submitted,

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